

Reply to Office Action of May 16, 2008

AMENDMENTS TO THE CLAIMS

1 - 4. (Canceled)

5. (Currently amended) A superconductive microstrip filter, comprising: an input coupling line, for receiving signals to be filtered and coupling-outputting said signals; a plurality of U-type superconductive microstrip resonators with the same structure and dimension, for performing filtering process for said signals output by said input coupling line to obtain signals in a corresponding frequency band and then coupling-outputting said obtained signals; an output coupling line, for coupling-outputting said signals outputted by said U-type superconductive microstrip resonators;

wherein said microconductive microstrip resonator has a U-type structure formed by a superconductive microstrip line, the whole length of said superconductive microstrip line bent to said U-type structure is as long as half of the wavelength corresponding to the center frequency of a filter constituted by said U-type superconductive microstrip resonator, and two sides of an open end of said U-type structure are different from each other in length and the two sides are parallel to each other,

wherein said plurality of U-type superconductive microstrip resonators are arranged in parallel with each other, any two neighboring U-type superconductive microstrip resonators in said plurality of U-type superconductive microstrip resonators are arranged axisymmetrically and in parallel with each other, and for the any two neighboring U-type superconductive microstrip resonators being arranged axisymmetrically and in parallel with each other, a longer side of an open end of each resonator is closer to a symmetrical axis than a shorter side of the open end of a shorter side of an open end of each resonator is closer to a symmetrical axis than a longer side of the open end.

6 - 10. (Canceled)

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11. (Currently amended) The superconductive microstrip filter of ~~anyone of claim 65~~, wherein the interval between any two neighboring U-type superconductive microstrip resonators is determined in accordance with particular requirements for designing said filter.

12 - 15. (Canceled).

16. (Currently amended) The superconductive microstrip filter of ~~anyone of claims claim 5~~, wherein, as for the U-type superconductive microstrip resonator which is closest to said input coupling line among said plurality of U-type superconductive microstrip resonators, one side of said open end thereof being closer to said input coupling line has a top end aligned with the top portion of said input coupling line.

17 - 21. (Canceled).

22. (Currently amended) The superconductive microstrip filter of ~~anyone of claims claim 5~~, wherein, as for the U-type superconductive microstrip resonator being closest to said output coupling line among said plurality of U-type superconductive microstrip resonators, one side of said open end thereof being closer to said output coupling line has a top end aligned with the top portion of said output coupling line.

23 - 27. (Canceled).

28. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators, wherein:

each of said plurality of U-type superconductive microstrip resonators are formed using a superconductive microstrip line;

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said plurality of U-type microstrip resonators are configured such that the number of poles of the microstrip filter can be increased without increasing the size of the superconductive microstrip filter;

said length of the two sides of each of said plurality of U-type microstrip resonators are unequal such that each of said plurality of U-type microstrip resonators has a long side and a short side; and

said plurality of U-type microstrip resonators are arranged such that the two sides of each of said plurality of U-type microstrip resonators are parallel with each other, and any two neighboring U-type microstrip resonators in said plurality of U-type microstrip resonators are arranged axisymmetrically and in parallel with each other.

29. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators as recited in claim 28, said superconductive microstrip filter apparatus further comprising:

an input coupling line for receiving signals to be filtered and coupling-outputting said signals; and

an output coupling line, for coupling-outputting said signals outputted by said plurality of U-type superconductive microstrip resonators.

30. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators as recited in claim 28, wherein the whole length of said superconductive microstrip line is half the wavelength corresponding to the center frequency of said superconductive microstrip filter.

31. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators as recited in claim 28, wherein said long side of each of said plurality of U-type microstrip resonators is closer to a symmetrical axis of said axisymmetrical arrangement than said short side.

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32. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators as recited in claim 28, wherein said short side of each of said plurality of U-type microstrip resonators is closer to a symmetrical axis of said axisymmetrical arrangement than said long side.

33. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators as recited in claim 29, wherein as for the U-type superconductive microstrip resonator being closest to said output coupling line among said plurality of U-type superconductive microstrip resonators, one side of said open end thereof being closer to said output coupling line has a top end aligned with the top portion of said output coupling line.

33. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators, wherein:

said length of the two sides of each of said plurality of U-type microstrip resonators are unequal such that each of said plurality of U-type microstrip resonators has a long side and a short side; and

said plurality of U-type microstrip resonators are arranged such that the two sides of each of said plurality of U-type microstrip resonators are parallel with each other, and any two neighboring U-type microstrip resonators in said plurality of U-type microstrip resonators are arranged axisymmetrically and in parallel with each other.

34. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators as recited in claim 33, said superconductive microstrip filter apparatus further comprising:

an input coupling line for receiving signals to be filtered and coupling-outputting said signals; and

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an output coupling line, for coupling-outputting said signals outputted by said plurality of U-type superconductive microstrip resonators.

35. (New) A superconductive microstrip filter apparatus comprising a plurality of U-type superconductive microstrip resonators as recited in claim 34, wherein as for the U-type superconductive microstrip resonator being closest to said output coupling line among said plurality of U-type superconductive microstrip resonators, one side of said open end thereof being closer to said output coupling line has a top end aligned with the top portion of said output coupling line.

36. (New) A superconductive microstrip filter apparatus comprising:
a plurality of U-type superconductive microstrip resonators, wherein:

said length of the two sides of each of said plurality of U-type microstrip resonators are unequal such that each of said plurality of U-type microstrip resonators has a long side and a short side; and

said plurality of U-type microstrip resonators are arranged such that the two sides of each of said plurality of U-type microstrip resonators are parallel with each other, and any two neighboring U-type microstrip resonators in said plurality of U-type microstrip resonators are arranged axisymmetrically and in parallel with each other;

and

an output coupling line, for coupling-outputting said signals outputted by said plurality of U-type superconductive microstrip resonators, wherein:

as for the U-type superconductive microstrip resonator being closest to said output coupling line among said plurality of U-type superconductive microstrip resonators, one side of said open end thereof being closer to said output coupling line has a top end aligned with the top portion of said output coupling line.